Remarks and Arguments

Claims 1-39 have been presented for examination. Claims 1, 3, 10, 20 and 29 have been amended.

Claims 1-9, 10-19 and 39 have been rejected under 35 U.S.C. §112, second paragraph, for failing to recite essential structural cooperative relationships between recited claim elements. The examiner comments that, in claims 1 and 10, the relationships between the port-A and port-B interfaces and the controller are not recited in claim 1 and the relationships between the first and second port-A and port-B interfaces and the first and second controllers are not recited in claim 10. In response, claims 1 and 10 have been amended to explicitly recite the structural relationships between the elements. For example, amended claim 1 now recites, in lines 5-6, that the port-A interface is connected to the first multimaster bus. In lines 9-10, amended claim 1 recites that the port-B interface is connected to the second multimaster bus. Similarly, in lines 12-13, amended claim1 recites that the controller is connected to the port-A interface and to the port-B interface. Therefore, the structural relationships between the elements are positively recited. Similar changes have been made to claim 10.

Claims 1-3, 7, 20-22 and 26 have been rejected under 35 U.S.C. §102(e) as anticipated by U.S. Patent 6,092,138 (Schutte) previously cited. The examiner comments that, when the claims are given their broadest reasonable interpretation, they read onto the Schutte disclosure.

In response, the claims have been amended to clearly distinguish from the Schutte disclosure. More particularly, the claims have been amended to recite that the port-A and port-B interfaces are independent from each other and that the port-B interface generates new address and data signals on the second multimaster bus. The claims have been further amended to recite that address and data information received at the port-A interface is buffered and that the controller is responsive to this buffered information for controlling the port-B interface to generate on the second multimaster bus new address and data signals corresponding to the address and data signals on the first multimaster bus. This is clearly shown in the drawings, for example Figure 2A.

Since the port-B interface regenerates the address and data signals or, alternatively, generates new address and data signals on the second multimaster bus,

placing the bridge into a bus configuration means that the bridge appears as a single device load regardless of the number of devices that are located upstream of the bridge. In other words, the bridge appears as a single device on the second multimaster bus regardless of the number of devices on the first multimaster bus. Therefore, the bridges can be judiciously placed into a large bus structure to electrically divide it into several smaller segments, each of which has a small enough number of devices to prevent electrical loading problems caused by the capacitance of each device.

The Schutte system cannot operate in this manner because the bridge transistors DBT and CBT electrically connect the bus segments 12a and 12b together when operating in the normal (non-increased current) mode. In this mode, all of the devices on both bus segments appear as electrical loads on the bus. Therefore, the electrical loading problem is still present. In fact, Schutte solves the loading problem in another manner – by using increased current pull-up supplies.

The claims have been amended to point out these differences. For example, amended claim 1 now recites "a port-B interface independent from the port-A interface that is connected to, and generates new address signals and data signals on, the second multimaster bus" and "a controller that is connected to the port-A interface and to the port-B interface and responds to buffered address and data received in the port-A interface from the first multimaster bus by controlling the port-B interface to selectively generate on the second multimaster bus new address and data signals corresponding to the received address and data..." As discussed above, in Schutte, the bus segments are either electrically disconnected or electrically connected. There is no mechanism in Schutte for transferring address and data signals across the bridge without incurring the electrical loading effects. In particular, Schutte does not disclose generation of new address signals in response to received and buffered signals.

Claims 2, 3 and 7 are dependent, either directly or indirectly, on amended claim 1 and incorporate the limitations thereof. Therefore, they distinguish over the cited reference in the same manner as amended claim 1.

Claim 20 has been amended in a manner similar to claim 1 and therefore patentably distinguishes over the Schutte reference in the same manner as amended claim 1.

Claims 21, 22 and 26 are dependent, either directly or indirectly, on amended claim 20 and incorporate the limitations thereof. Therefore, they distinguish over the cited reference in the same manner as amended claim 20.

Based on the above discussion, claims 1-39 are allowable and advancement of this application to issue is respectfully requested. The Commissioner is hereby authorized to charge any fees or credits under 37 C.F.R. §1.16 and 1.17 to our deposit account No. 02-3038.

Respectfully submitted

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